```
     FILE 'REGISTRY' ENTERED AT 13:11:02 ON 10 NOV 2009
L1                STRUCTURE UPLOADED
L2              1 S L1
L3             18 S L1 SSS FULL

     FILE 'HCAPLUS' ENTERED AT 13:12:02 ON 10 NOV 2009
L4              6 S L3
```

```
=> file registry
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.22       0.22

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STRUCTURE FILE UPDATES:    8 NOV 2009  HIGHEST RN 1191799-54-8
DICTIONARY FILE UPDATES:   8 NOV 2009  HIGHEST RN 1191799-54-8

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TSCA INFORMATION NOW CURRENT THROUGH June 26, 2009.

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experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Program Files\STNEXP\Queries\10677894generic.str
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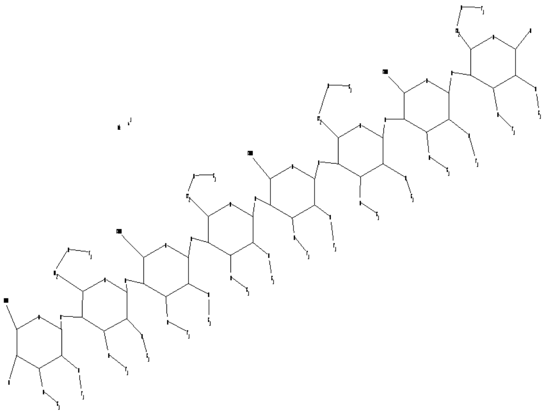
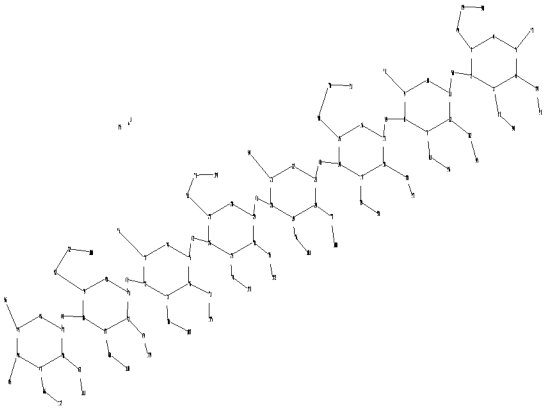




```
chain nodes :
49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  64  65  66  67  68  69
70  71  72  73  74  75  76  77  78  79  80  81  82  83  84  85  89  90  91  93  94
95  96  97
98  100  101  102  103  104  105  107  108  109  110  111  112
ring nodes :
1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23
24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40  41  42  43  44
45  46  47  48

chain bonds :
1-83  2-58  3-49  5-57  6-84  7-81  8-59  9-53  11-58  12-82  13-79  14-60  15-50
17-59  18-80  19-76  20-61  21-54  23-60  24-77  25-74  26-62  27-51  29-61  30-75
31-70  32-63
33-55  35-62  36-71  37-68  38-64  39-52  41-63  42-69  43-66  44-65  45-56  47-64
48-67  49-89
50-78  51-73  52-72  66-112  67-111  68-110  69-109  70-107  71-105  72-108  73-104
 74-103  75-102
76-101  77-100  78-91  79-98  80-97  81-96  82-95  83-94  84-93  89-90
ring bonds :
1-2  1-6  2-3  3-4  4-5  5-6  7-8  7-12  8-9  9-10  10-11  11-12  13-14  13-18
14-15
15-16  16-17  17-18  19-20  19-24  20-21  21-22  22-23  23-24  25-26  25-30  26-27
27-28  28-29
29-30  31-32  31-36  32-33  33-34  34-35  35-36  37-38  37-42  38-39  39-40  40-41
41-42  43-44
43-48  44-45  45-46  46-47  47-48
```

```
exact/norm bonds :
1-2  1-6  1-83  2-3  2-58  3-4  4-5  5-6  5-57  6-84  7-8  7-12  7-81  8-9  8-59
9-10  10-11  11-12  11-58  12-82  13-14  13-18  13-79  14-15  14-60  15-16  16-17
17-18  17-59  18-80
19-20  19-24  19-76  20-21  20-61  21-22  22-23  23-24  23-60  24-77  25-26  25-30
25-74  26-27
26-62  27-28  28-29  29-30  29-61  30-75  31-32  31-36  31-70  32-33  32-63  33-34
34-35  35-36
35-62  36-71  37-38  37-42  37-68  38-39  38-64  39-40  40-41  41-42  41-63  42-69
43-44  43-48
43-66  44-45  44-65  45-46  46-47  47-48  47-64  48-67  66-112  67-111  68-110
69-109  70-107
71-105  72-108  73-104  74-103  75-102  76-101  77-100  78-91  79-98  80-97  81-96
82-95  83-94  84-93
89-90
exact bonds :
3-49  9-53  15-50  21-54  27-51  33-55  39-52  45-56  49-89  50-78  51-73  52-72



G1:SO3H,[*1]

Connectivity :
85:1 X maximum RC ring/chain
Match level :
1:Atom  2:Atom  3:Atom  4:Atom  5:Atom  6:Atom  7:Atom  8:Atom  9:Atom  10:Atom
11:Atom  12:Atom  13:Atom  14:Atom  15:Atom  16:Atom  17:Atom  18:Atom  19:Atom
20:Atom  21:Atom
22:Atom  23:Atom  24:Atom  25:Atom  26:Atom  27:Atom  28:Atom  29:Atom  30:Atom
31:Atom  32:Atom
33:Atom  34:Atom  35:Atom  36:Atom  37:Atom  38:Atom  39:Atom  40:Atom  41:Atom
42:Atom  43:Atom
44:Atom  45:Atom  46:Atom  47:Atom  48:Atom  49:CLASS  50:CLASS  51:CLASS  52:CLASS
 53:CLASS  54:CLASS
55:CLASS  56:CLASS  57:CLASS  58:CLASS  59:CLASS  60:CLASS  61:CLASS  62:CLASS
63:CLASS  64:CLASS
65:CLASS  66:CLASS  67:CLASS  68:CLASS  69:CLASS  70:CLASS  71:CLASS  72:CLASS
73:CLASS  74:CLASS
75:CLASS  76:CLASS  77:CLASS  78:CLASS  79:CLASS  80:CLASS  81:CLASS  82:CLASS
83:CLASS  84:CLASS
85:CLASS  89:CLASS  90:CLASS  91:CLASS  93:CLASS  94:CLASS  95:CLASS  96:CLASS
97:CLASS
98:CLASS  100:CLASS  101:CLASS  102:CLASS  103:CLASS  104:CLASS  105:CLASS
107:CLASS  108:CLASS  109:CLASS
110:CLASS  111:CLASS  112:CLASS
Generic attributes :
85:
Saturation             : Saturated
Number of Carbon Atoms : less than 7




L1      STRUCTURE UPLOADED

=> s l1
SAMPLE SEARCH INITIATED 13:11:35 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -      134 TO ITERATE

100.0% PROCESSED      134 ITERATIONS                             1 ANSWERS
```

```
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:         1986 TO     3374
PROJECTED ANSWERS:               1 TO       80

L2            1 SEA SSS SAM L1

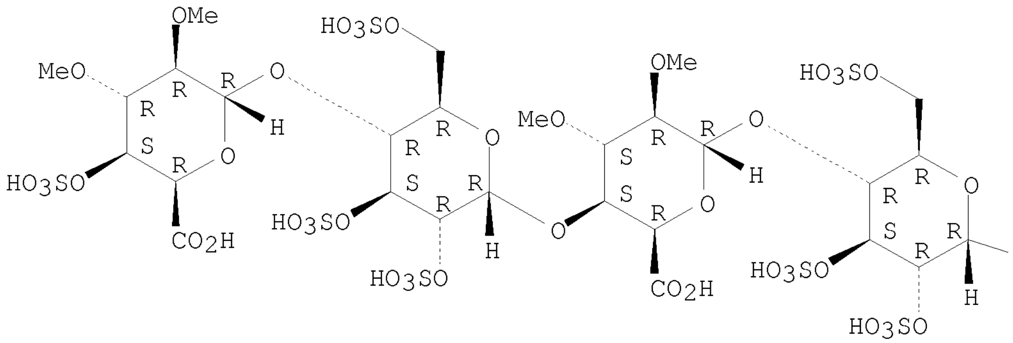
=> d l1 scan
L1 HAS NO ANSWERS


=> d l2 scan

L2   1 ANSWERS   REGISTRY  COPYRIGHT 2009 ACS on STN
IN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-[O-2,3,6-tri-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
     (1→4)]5-, tris(hydrogen sulfate) (9CI)
MF   C85 H136 O124 S19
CI   COM

Absolute stereochemistry.  Rotation (+).

                                                                  PAGE 1-A
```



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                                                                  PAGE 1-B
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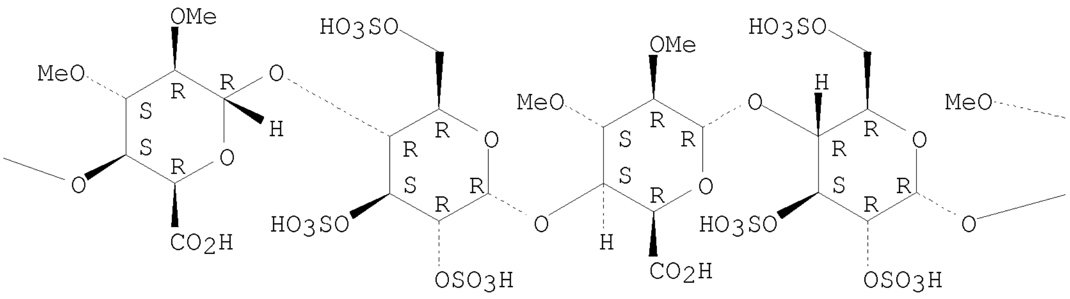

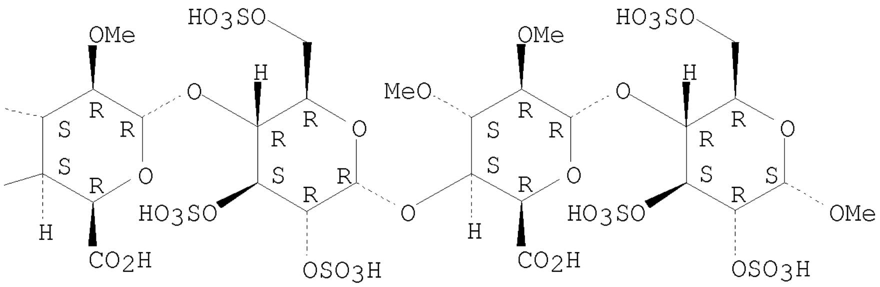

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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**


ALL ANSWERS HAVE BEEN SCANNED


=> s l1 sss full
FULL SEARCH INITIATED 13:11:56 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -     2684 TO ITERATE

100.0% PROCESSED     2684 ITERATIONS                             18 ANSWERS
SEARCH TIME: 00.00.01

L3           18 SEA SSS FUL L1

=> file hcaplus
COST IN U.S. DOLLARS                                 SINCE FILE      TOTAL
                                                          ENTRY    SESSION
FULL ESTIMATED COST                                      186.36     186.58

FILE 'HCAPLUS' ENTERED AT 13:12:02 ON 10 NOV 2009
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FILE COVERS 1907 - 10 Nov 2009  VOL 151 ISS 20
FILE LAST UPDATED: 9 Nov 2009  (20091109/ED)
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REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Aug 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Aug 2009

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2009.

CAS Information Use Policies apply and are available at:

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This file contains CAS Registry Numbers for easy and accurate
substance identification.

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in the CA/CAplus family databases for free!  Complete details on the
number of free displays and other databases participating in this
offer appear in NEWS 10.

=> s l3
L4           6 L3

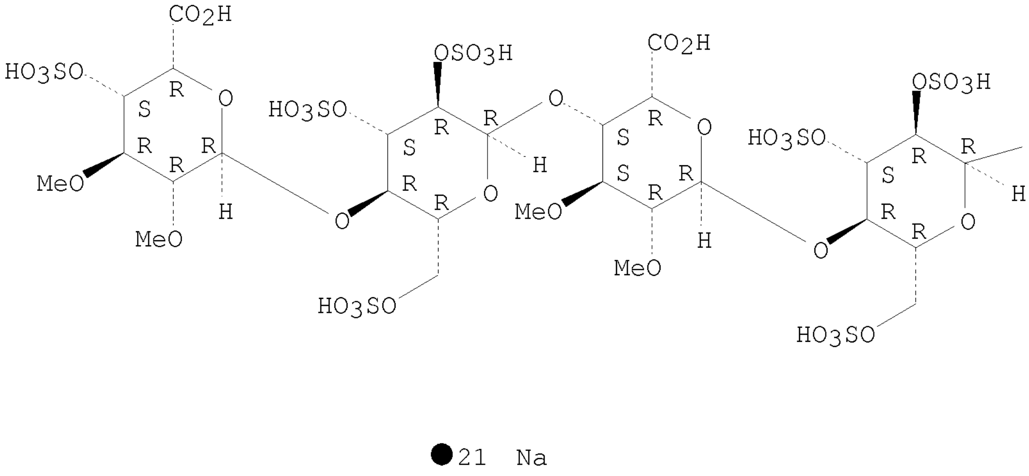
=> d l4 1-6 ti abs bib hitstr

L4   ANSWER 1 OF 6  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   "Design and synthesis of heparin mimetics able to inhibit thrombin". Part
     2 assessment through chemical synthesis of the size of the heparin
     sequence involved in thrombin inhibition
AB   Deca- to eicosasaccharides having the generic structure methyl(sodium
     2,3-di-O-methyl-4-O-sodium sulfonato-α-L-idopyranosyluronate)-
     (1→4)-[(2,3,6-tri-O-sodium sulfonato-α-D-glucopyranosyl)-
     (1→4)-(sodium 2,3-di-O-methyl-α-L-idopyranosyluronate)-
     (1→4)]n-2,3,6-tri-O-sodium sulfonato-α-D-glucopyranoside have
     been synthesized from a single disaccharide precursor.  All of them bind
     to and activate antithrombin.  When n ≤ 6 only Factor Xa inhibition
     is observed, whereas when n > 6 Factor Xa and thrombin are both inhibited in
     the presence of antithrombin.  These results indicate that, in heparin,
     the sequence involved in antithrombin-catalyzed thrombin inhibition is a
     pentadecaor a hexadecasaccharide.
AN   1999:492122  HCAPLUS <<LOGINID::20091110>>
DN   131:257771
TI   "Design and synthesis of heparin mimetics able to inhibit thrombin". Part
     2 assessment through chemical synthesis of the size of the heparin
     sequence involved in thrombin inhibition
AU   Duchaussoy, Philippe; Jaurand, Guy; Driguez, Pierre-A.; Lederman, Isidore;
     Ceccato, Marie-L.; Gourvenec, Francoise; Strassel, Jean-M.; Sizun,
     Philippe; Petitou, Maurice; Herbert, Jean-M.
CS   Sanofi Recherche, Haemobiology Research Department, Toulouse, F-31036, Fr.
SO   Carbohydrate Research (1999), 317(1-4), 85-99
     CODEN: CRBRAT; ISSN: 0008-6215
PB   Elsevier Science Ltd.
DT   Journal
LA   English
IT   200712-79-4P   200712-80-7P
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); SPN (Synthetic preparation); BIOL (Biological
     study); PREP (Preparation)
        (preparation of oligosaccharides heparin mimetics as antithrombins)
RN   200712-79-4  HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-
     (1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-
```

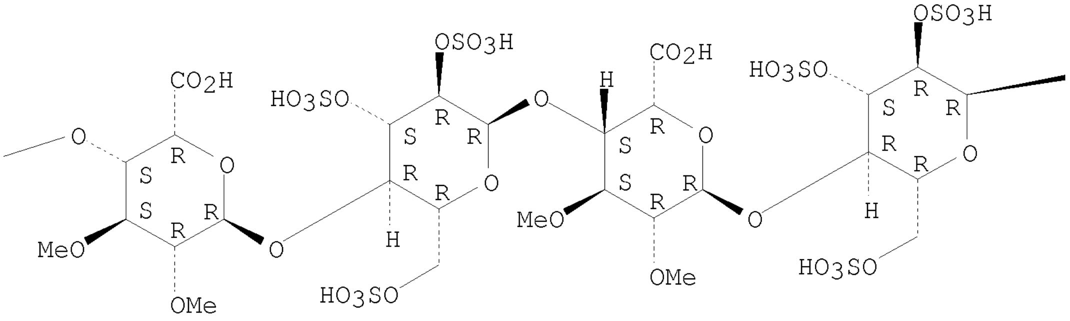
2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-, tris(hydrogen sulfate), eicosasodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

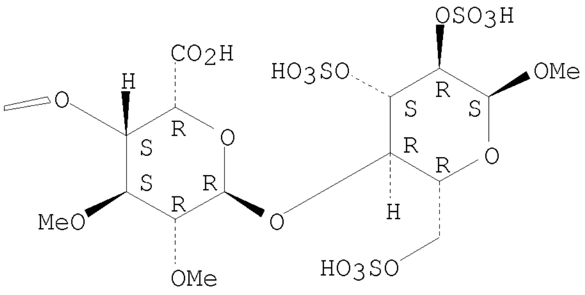
PAGE 1-A



PAGE 1-B



PAGE 1-C

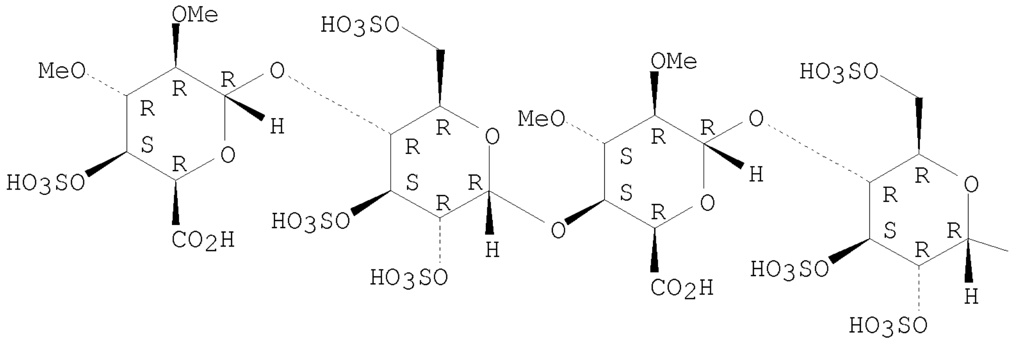


RN 200712-80-7 HCAPLUS

CN α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-idopyranuronosyl-(1→4)-[O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)]5-, tris(hydrogen sulfate), pentacosasodium salt (9CI) (CA INDEX NAME)

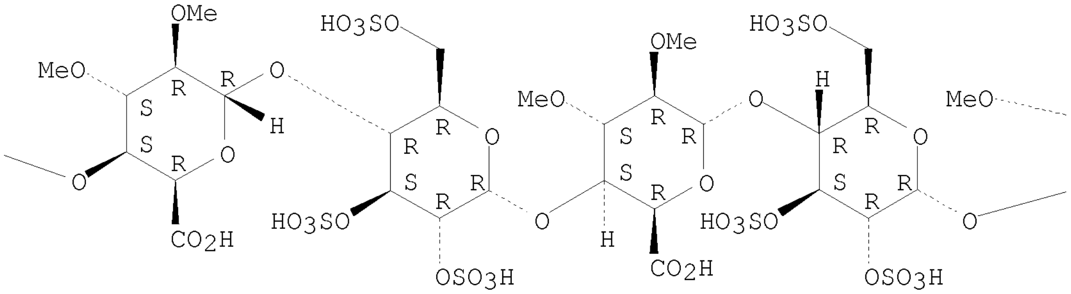
Absolute stereochemistry. Rotation (+).

PAGE 1-A



● 25 Na

PAGE 1-B



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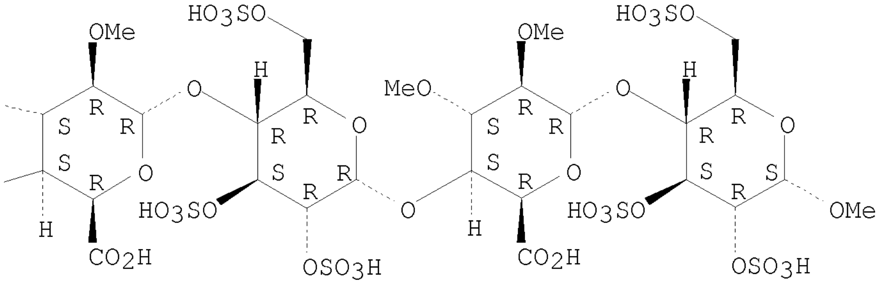


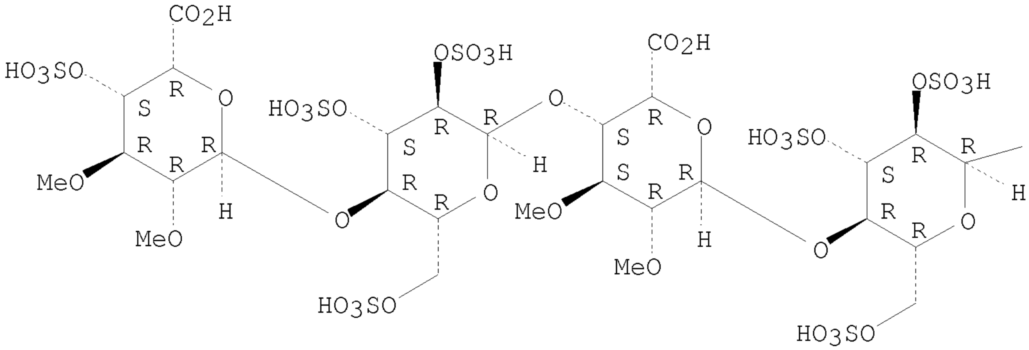
OSC.G   18   THERE ARE 18 CAPLUS RECORDS THAT CITE THIS RECORD (19 CITINGS)
RE.CNT 18   THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4   ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2009 ACS on STN
TI   Synthesis of thrombin-inhibiting heparin mimetics without side effects
AB   Unwanted side effects of pharmacol. active compds. can usually be eliminated by structural modifications. To obtain more potent and well-tolerated antithrombotic drugs, we wished to synthesize heparin mimetics able to inhibit thrombin, i.e., longer oligosaccharides. Like thrombin inhibition, undesired interactions are directly correlated to the charge and the size of the mols., so we had to design structures that were able to discriminate between thrombin and other proteins, particularly PF4. Here we describe the use of multistep converging synthesis to obtain sulfated oligosaccharides that meet these requirements.
AN   1999:255704 HCAPLUS <<LOGINID::20091110>>
DN   130:296937
TI   Synthesis of thrombin-inhibiting heparin mimetics without side effects
AU   Petitou, Maurice; Herault, Jean-Pascal; Bernat, Andre; Driguez, Pierre-Alexandre; Duchaussoy, Philippe; Lormeau, Jean-Claude; Herbert, Jean-Marc
CS   Sanofi Recherche, Toulouse, 31036, Fr.

SO   Nature (London) (1999), 398(6726), 417-422
     CODEN: NATUAS; ISSN: 0028-0836
PB   Macmillan Magazines
DT   Journal
LA   English
IT   191418-11-8P   191418-12-9P
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
        (synthesis of thrombin-inhibiting heparin mimetics without side effects)
RN   191418-11-8 HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-, tris(hydrogen sulfate) (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



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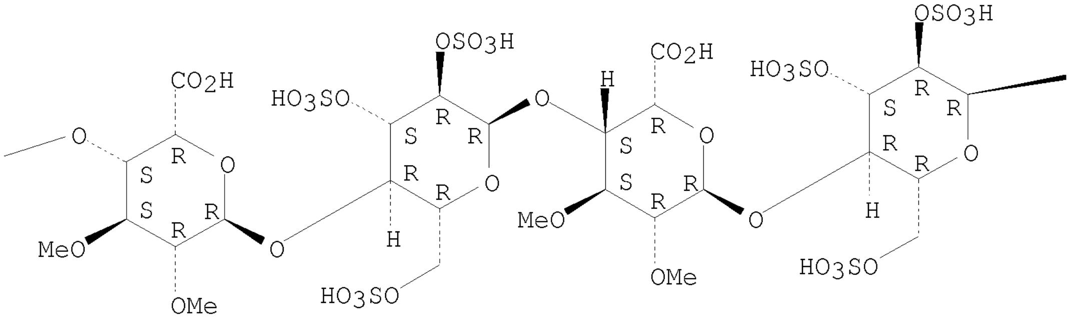
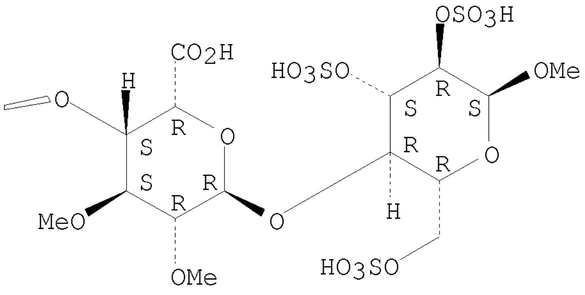


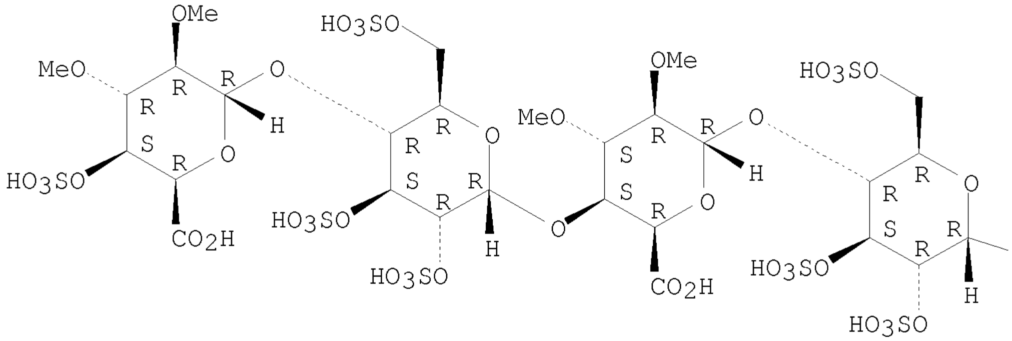
PAGE 1-C



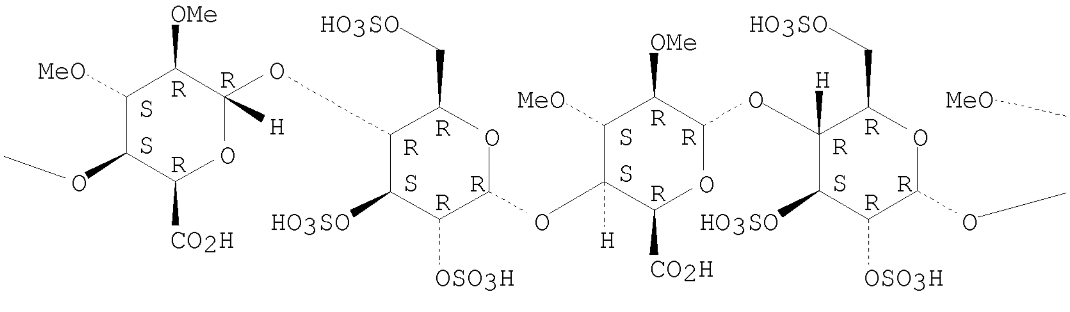
RN 191418-12-9 HCAPLUS
CN α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-idopyranuronosyl-(1→4)-[O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)]5-, tris(hydrogen sulfate) (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

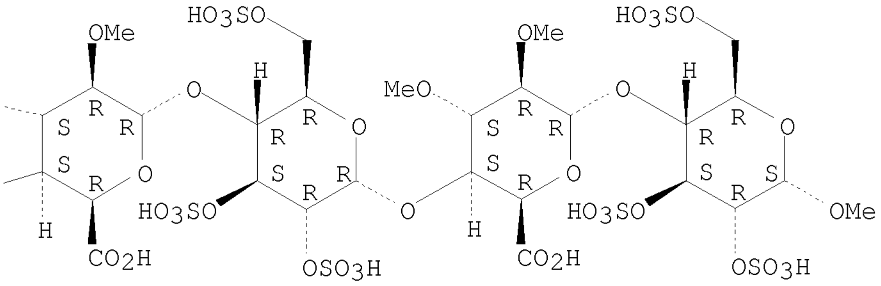
PAGE 1-A



PAGE 1-B



PAGE 1-C



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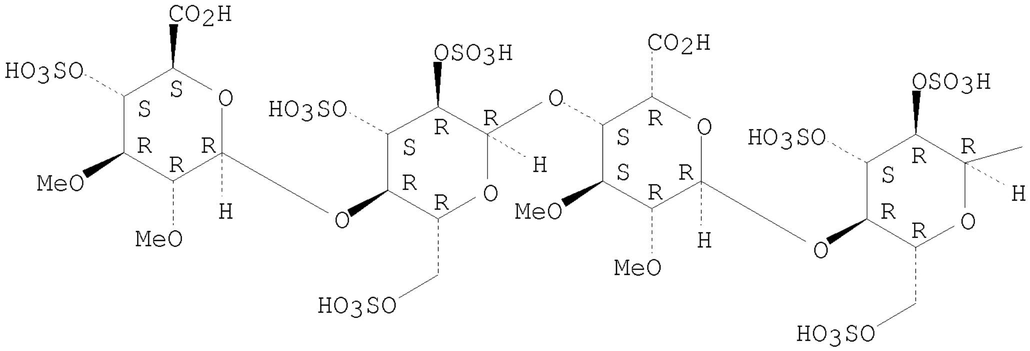
OSC.G   190   THERE ARE 190 CAPLUS RECORDS THAT CITE THIS RECORD (190 CITINGS)
RE.CNT  27    THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
```

```
L4   ANSWER 3 OF 6  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   First synthetic carbohydrates with the full anticoagulant properties of
     heparin
AB   Using the imidate glycosylation procedure, the authors have synthesized
     oligosaccharide mols. displaying the dual (anti-factor Xa and
     anti-thrombin) activity of heparin mediated by AT III.  "Non-glycosamino"
     glycan heparin analogs, where N-sulfonato substituents were replaced by
     O-sulfonato groups and -OH groups were alkylated, which preserve the
     specific binding to AT III, yet simplify synthesis, were used.  Repetitive
     block synthesis, using disaccharide synthons, gave hexa- to
     eicosa-saccharides, which were tested for biol. activity in thrombin or
     factor Xa inhibition.  Regarding the long standing question about the min.
     size of heparin fragments able to catalyze thrombin inhibition, the
     present data restrict the choice to a pentadeca- or hexadeca-saccharide.
AN   1998:794792  HCAPLUS <<LOGINID::20091110>>
DN   130:110506
TI   First synthetic carbohydrates with the full anticoagulant properties of
     heparin
AU   Petitou, Maurice; Duchaussoy, Philippe; Driguez, Pierre-A.; Jaurand, Guy;
     Herault, Jean-P.; Lormeau, Jean-C.; Van Boeckel, Constant A. A.; Herbert,
     Jean-M.
CS   Haemobiology Research Department, Sanofi Recherche, Toulouse, F-31036, Fr.
SO   Angewandte Chemie, International Edition (1998), 37(21), 3009-3014
     CODEN: ACIEF5; ISSN: 1433-7851
PB   Wiley-VCH Verlag GmbH
DT   Journal
LA   English
IT   219596-95-9P   219596-98-2P
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); SPN (Synthetic preparation); BIOL (Biological
     study); PREP (Preparation)
        (synthesis and testing of as synthetic carbohydrates with the
        anticoagulant properties of heparin)
RN   219596-95-9  HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-β-D-
```

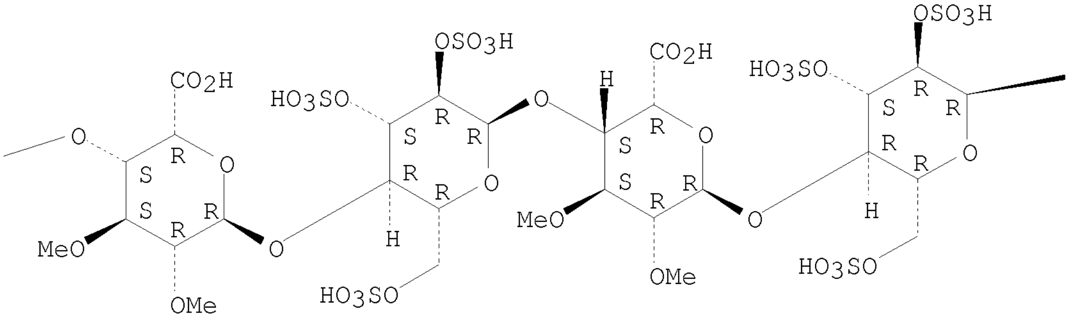
glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-
2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-
sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-
idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-
(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-,
tris(hydrogen sulfate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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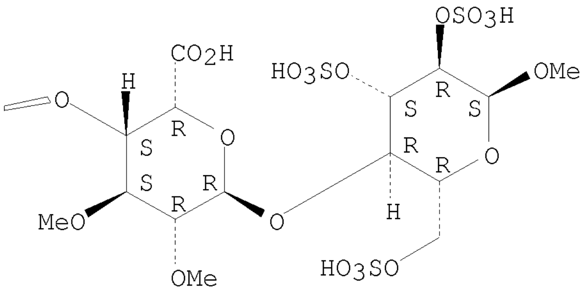
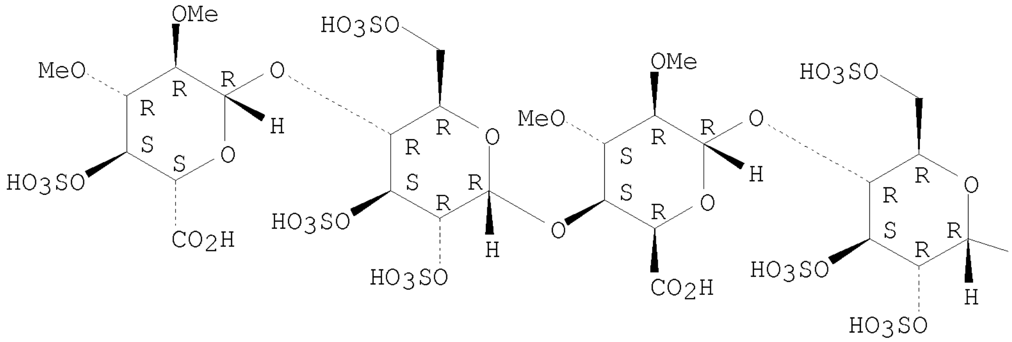


RN   219596-98-2 HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-β-D-glucopyranuronosyl-(1→4)-[O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)]5-, tris(hydrogen sulfate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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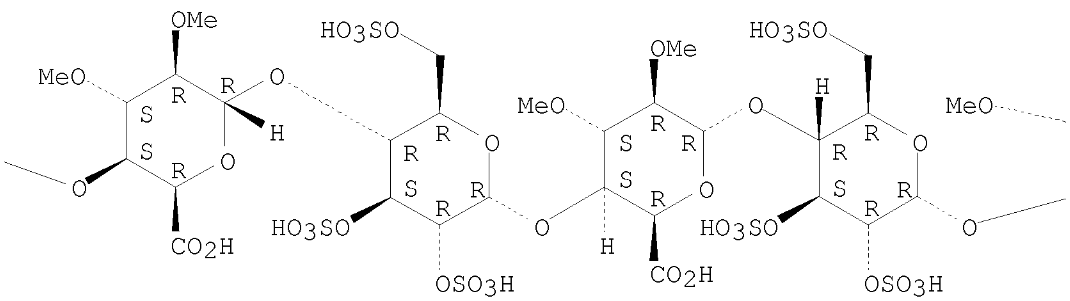

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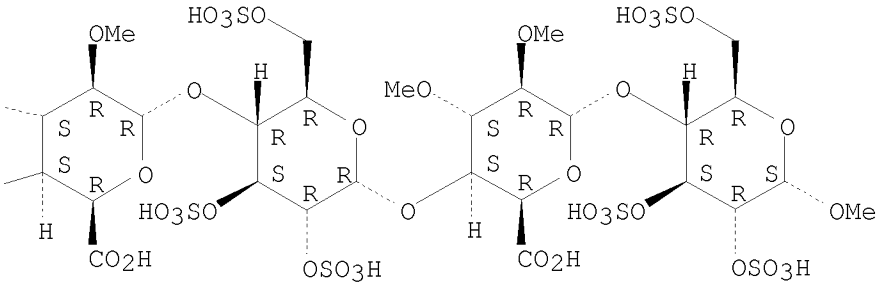

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OSC.G   46    THERE ARE 46 CAPLUS RECORDS THAT CITE THIS RECORD (47 CITINGS)
RE.CNT  29    THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4   ANSWER 4 OF 6  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   Preparation of synthetic polysaccharides for use in pharmaceutical
     compositions
AB   Polysaccharides (d.p. 8-24) comprising concatenations of disaccharides
     consisting of a uronic acid and a hexose (all OH groups being etherified
     with C1-6 alkyl groups or esterified with sulfonic acids) and their salts
     are prepared for use in pharmaceuticals (no data).  The preparation of
     polysaccharides with d.p. 2-10 and their intermediates is described.
AN   1998:15784  HCAPLUS <<LOGINID::20091110>>
DN   128:90258
OREF 128:17615a,17618a
TI   Preparation of synthetic polysaccharides for use in pharmaceutical
     compositions
IN   Duchaussoy, Philippe; Herbert, Jean-Marc; Jaurand, Guy; Petitou, Maurice;
     Van Boeckel, Constant
PA   Sanofi, Fr.; Akzo Nobel N.V.
SO   PCT Int. Appl., 70 pp.
     CODEN: PIXXD2
DT   Patent
LA   French
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
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             LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL,
             PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ,
             VN, YU, ZW
         RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR,
             GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA,
             GN, ML, MR, NE, SN, TD, TG
     FR 2749849           A1    19971219   FR 1996-7457           19960614
     FR 2749849           B1    19980904
     CA 2258146           A1    19971218   CA 1997-2258146        19970611
     CA 2258146           C     20031007
     AU 9732667           A     19980107   AU 1997-32667          19970611
     EP 904299           A1    19990331    EP 1997-928337         19970611
     EP 904299           B1    20010829
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
     JP 11513061         T     19991109    JP 1998-501307         19970611
     JP 3501813          B2    20040302
     BR 9709722          A     20000125    BR 1997-9722           19970611
     AT 204883           T     20010915    AT 1997-928337         19970611
     ES 2163171          T3    20020116    ES 1997-928337         19970611
     MX 9810514          A     20000630    MX 1998-10514          19981210
     NO 9805831          A     19990211    NO 1998-5831           19981211
     NO 319037           B1    20050606
     US 20040068108      A1    20040408    US 2003-677894         20031002
PRAI FR 1996-7457        A     19960614
     WO 1997-FR1048      W     19970611
     US 1998-202241      B1    19981210
     US 2000-686373      B1    20001011
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OS   MARPAT 128:90258
IT   200712-79-4P   200712-80-7P   200712-81-8P
     200712-83-0P   200712-84-1P   200712-88-5P
     200712-89-6P   200712-90-9P
     RL: IMF (Industrial manufacture); PREP (Preparation)
        (preparation of synthetic polysaccharides for use in pharmaceutical compns.)
RN   200712-79-4  HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-
     (1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-
     2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-
     α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
     (1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-
     2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-, tris(hydrogen
     sulfate), eicosasodium salt (9CI)  (CA INDEX NAME)

Absolute stereochemistry.  Rotation (+).

                                                      PAGE 1-A
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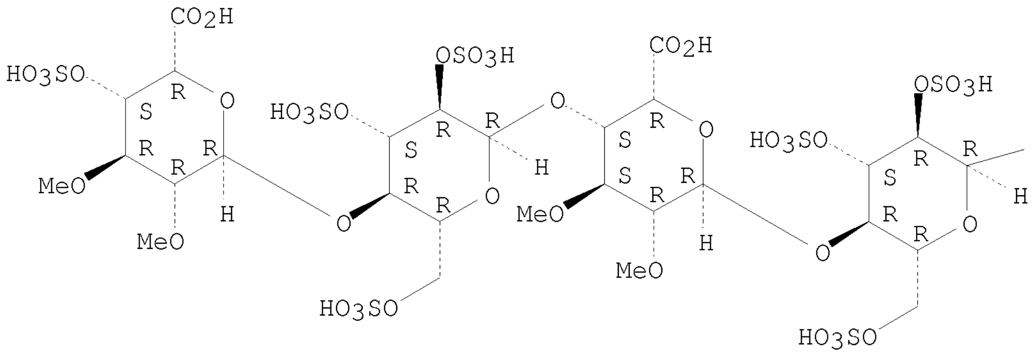
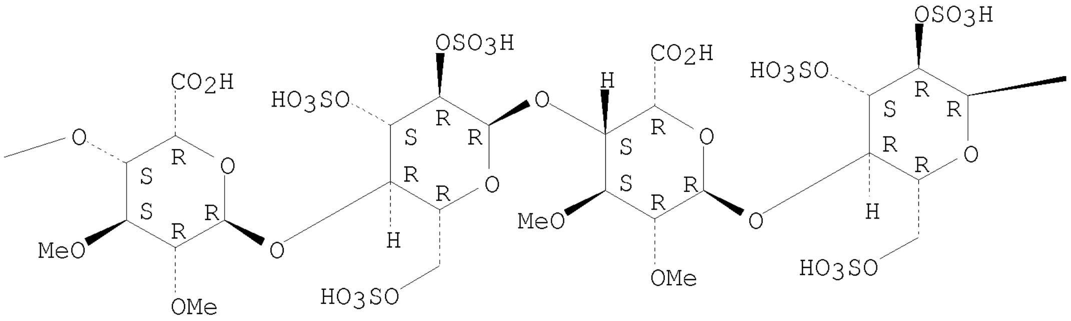


●21 Na

PAGE 1-B



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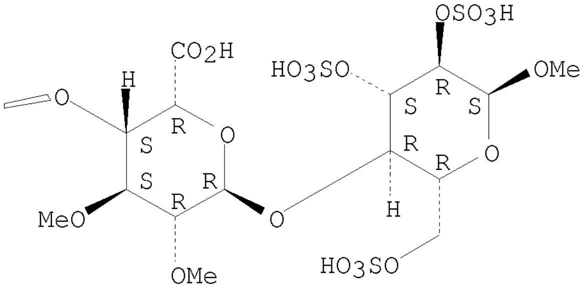

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CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
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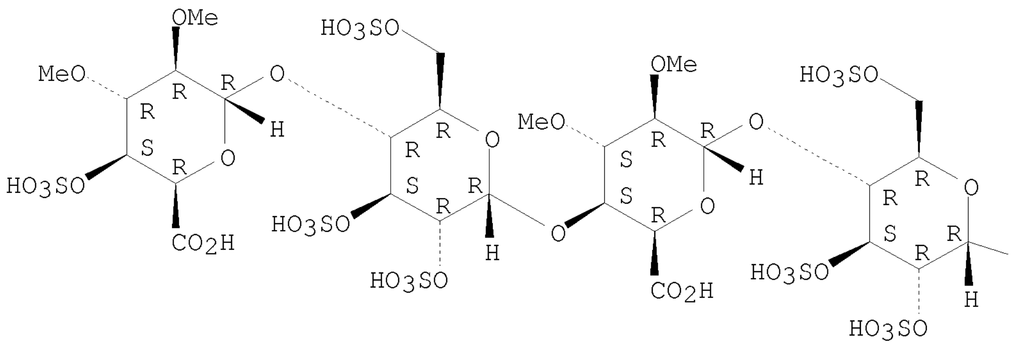
     glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
     (1→4)]5-, tris(hydrogen sulfate), pentacosasodium salt (9CI) (CA
     INDEX NAME)

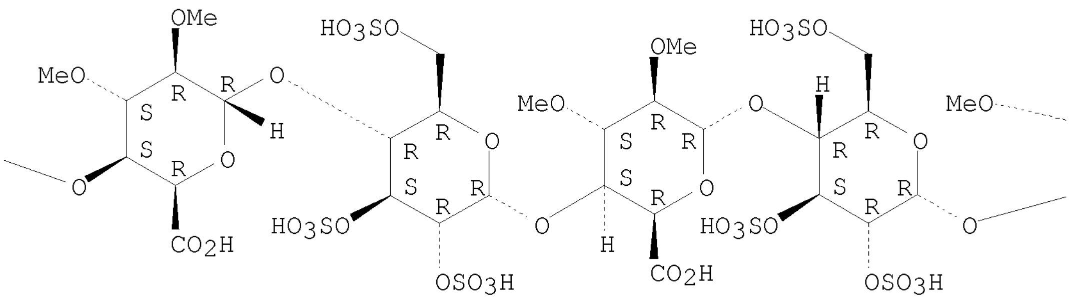
Absolute stereochemistry. Rotation (+).

PAGE 1-A



●25 Na

PAGE 1-B



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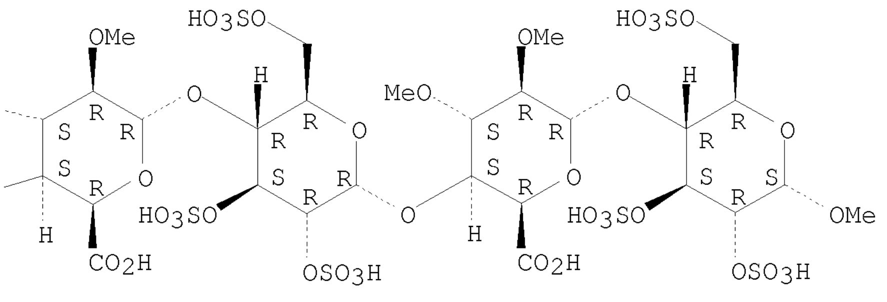
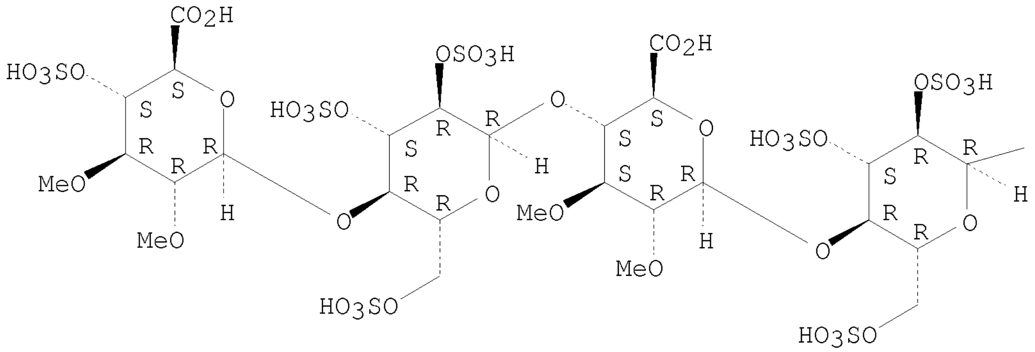


RN 200712-81-8 HCAPLUS

CN α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-β-D-
glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-glucopyranuronosyl-
(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-
2,3-di-O-methyl-β-D-glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-
sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-
glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-glucopyranuronosyl-
(1→4)-, tris(hydrogen sulfate), heneicosasodium salt (9CI) (CA
INDEX NAME)

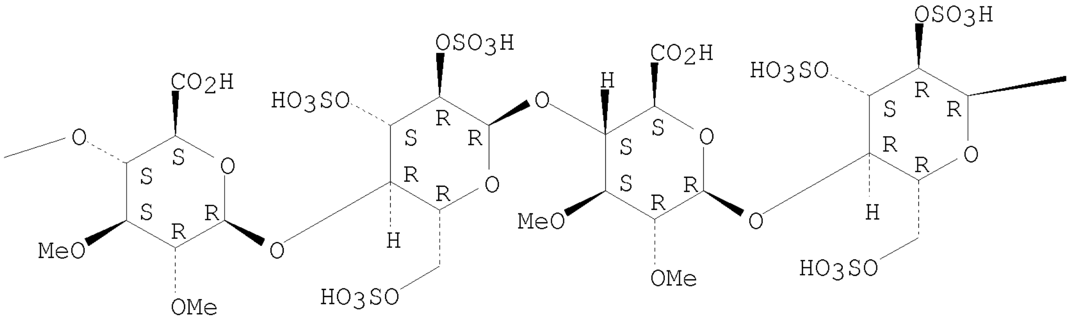
Absolute stereochemistry. Rotation (+).

PAGE 1-A



●21 Na

PAGE 1-B



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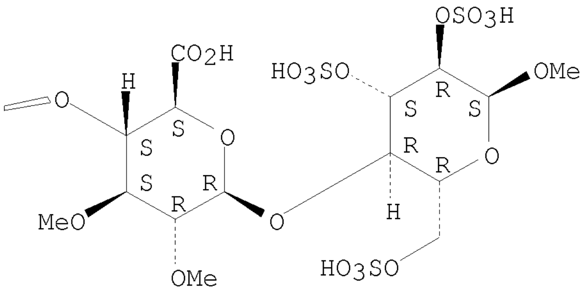
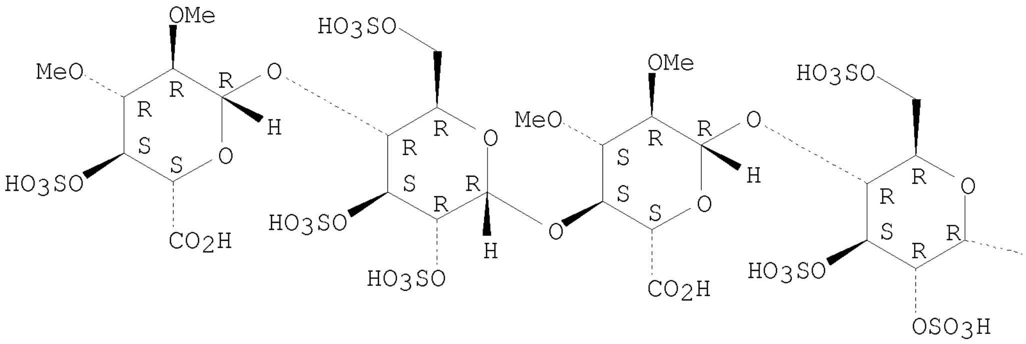


RN 200712-83-0 HCAPLUS

CN α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-glucopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-β-D-glucopyranuronosyl-(1→4)-, tris(hydrogen sulfate), heptadecasodium salt (9CI) (CA INDEX NAME)

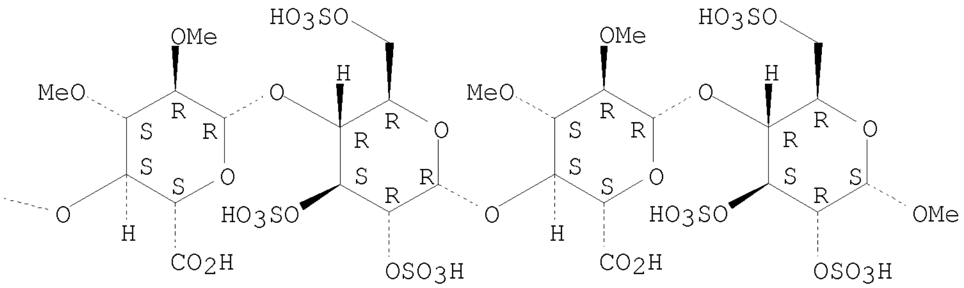
Absolute stereochemistry. Rotation (+).

PAGE 1-A



●17 Na

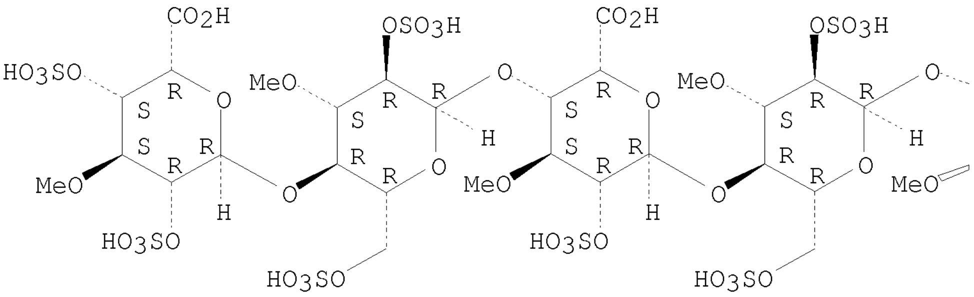
PAGE 1-B



RN   200712-84-1 HCAPLUS
CN   α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-
glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-
idopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate),
eicosasodium salt (9CI) (CA INDEX NAME)

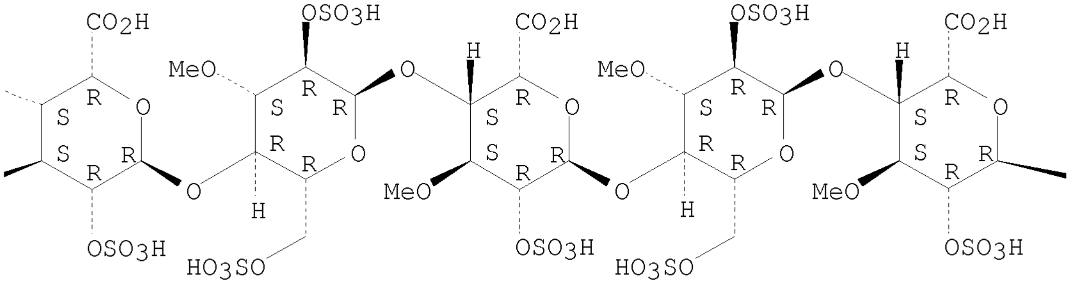
Absolute stereochemistry. Rotation (+).

PAGE 1-A



●21 Na

PAGE 1-B



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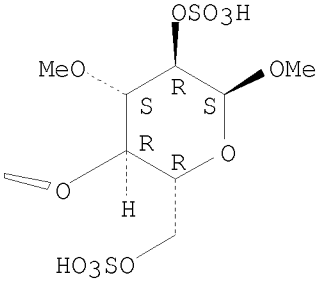
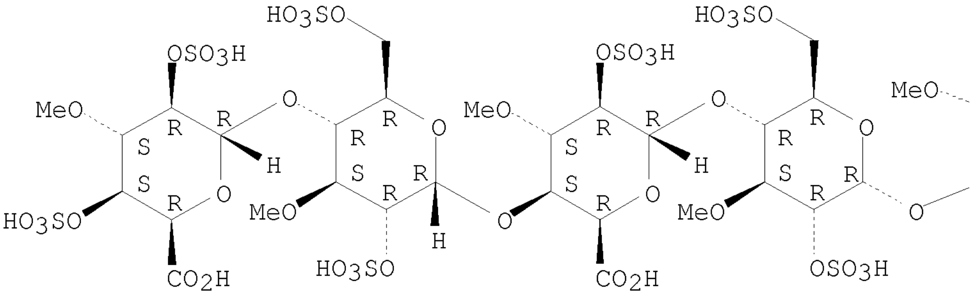


RN 200712-88-5 HCAPLUS

CN α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate), heptadecasodium salt (9CI) (CA INDEX NAME)

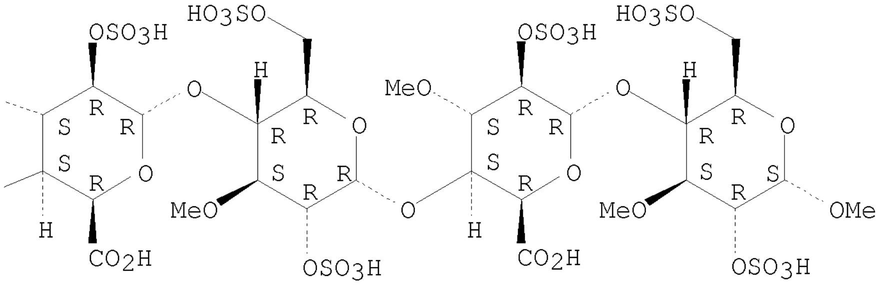
Absolute stereochemistry.

PAGE 1-A



●17 Na

PAGE 1-B

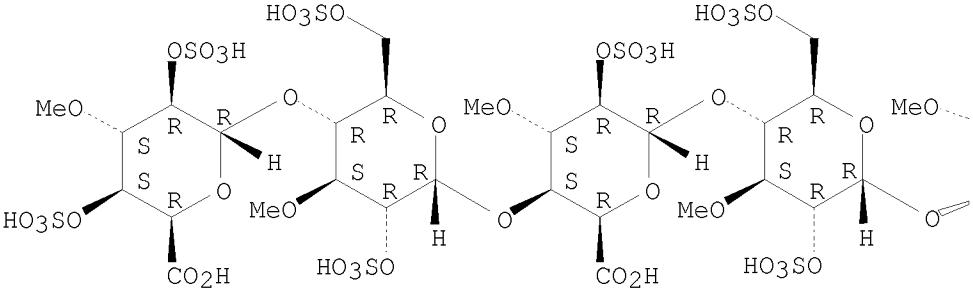


RN 200712-89-6 HCAPLUS

CN α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate), pentacosasodium salt (9CI) (CA INDEX NAME)

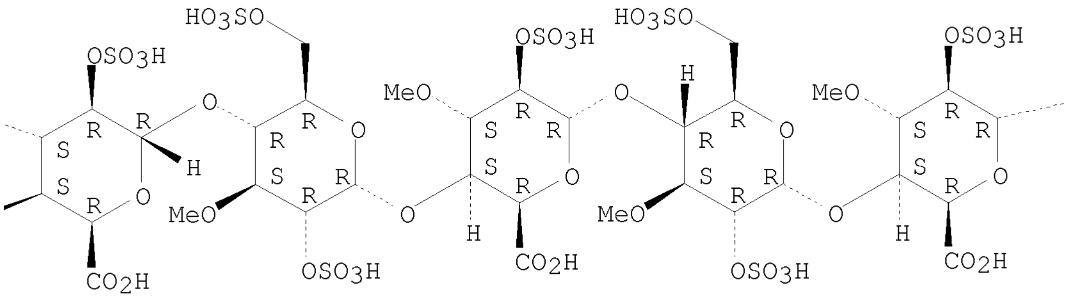
Absolute stereochemistry.

PAGE 1-A

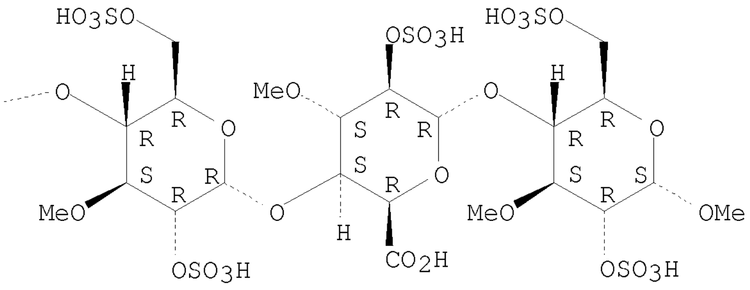


● 25 Na

PAGE 1-B



PAGE 1-C

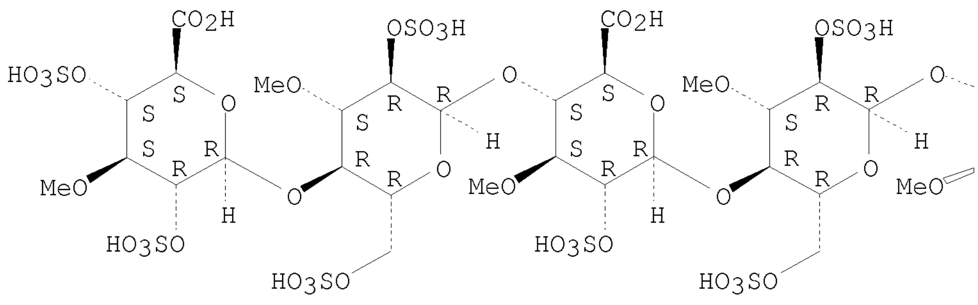


RN 200712-90-9 HCAPLUS

CN α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-β-D-glucopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-β-D-glucopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate), henicosasodium salt (9CI) (CA INDEX NAME)

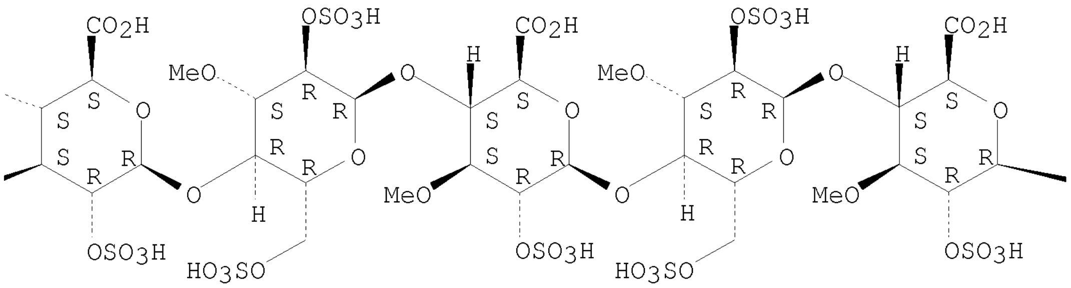
Absolute stereochemistry. Rotation (+).

PAGE 1-A



●21 Na

PAGE 1-B



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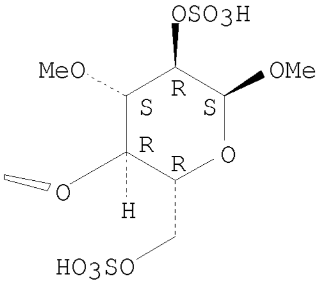


OSC.G   2   THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
RE.CNT 1   THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

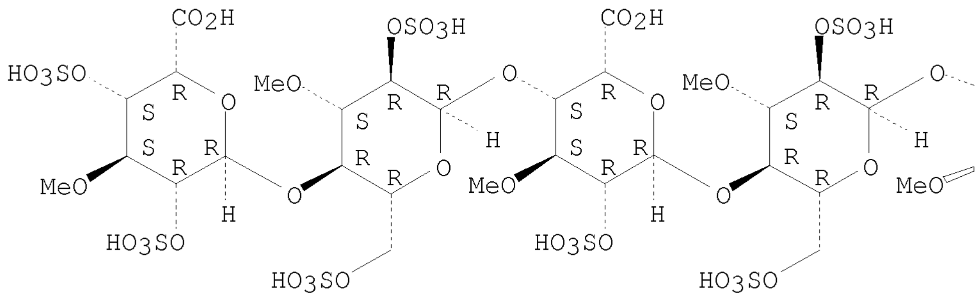
L4   ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2009 ACS on STN
TI   A synthetic heparin/heparan sulfate-like decasaccharide releases lipase activity in vivo. Chemical preparation and biological activity
AB   A decasaccharide mimic of the heparan sulfate fragment reported to have high affinity for lipoprotein lipase has been synthesized, and shown to release lipase activity in vivo in the rat.
AN   1997:582971 HCAPLUS <<LOGINID::20091110>>
DN   127:234536
OREF 127:45777a,45780a
TI   A synthetic heparin/heparan sulfate-like decasaccharide releases lipase activity in vivo. Chemical preparation and biological activity
AU   Petitou, M.; Duchaussoy, P.; Bernat, A.; Hoffmann, P.; Herbert, J. M.
CS   Sanofi Recherche, Haemobiology Research Department, Toulouse, 31036, Fr.
SO   Bioorganic & Medicinal Chemistry Letters (1997), 7(15), 2067-2070
     CODEN: BMCLE8; ISSN: 0960-894X
PB   Elsevier
DT   Journal
LA   English
IT   191418-15-2P
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
        (synthetic heparin/heparan sulfate-like decasaccharide releases lipase activity in vivo. chemical preparation and biol. activity)

RN 191418-15-2 HCAPLUS

CN α-D-Glucopyranoside, methyl O-3-O-methyl-2,4-di-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-O-3-O-methyl-2,6-di-O-sulfo-α-D-glucopyranosyl-(1→4)-O-3-O-methyl-2-O-sulfo-α-L-idopyranuronosyl-(1→4)-3-O-methyl-, bis(hydrogen sulfate) (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



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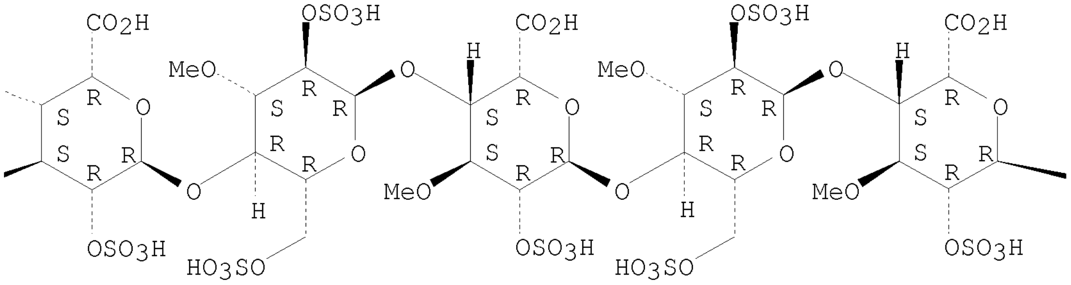

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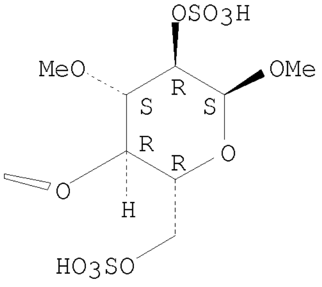

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OSC.G   3     THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
RE.CNT  12    THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4   ANSWER 6 OF 6  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   Polymer-supported solution synthesis of heparan sulfate-like oligomers
AB   The polyethylene glycol (PEG-polymer)-supported solution synthesis of heparan
     sulfate-like oligomers, which differ in length (up till 12-mers) and
     sulfation pattern, is described.
AN   1997:357323  HCAPLUS <<LOGINID::20091110>>
DN   127:66056
OREF 127:12631a,12634a
TI   Polymer-supported solution synthesis of heparan sulfate-like oligomers
AU   Dreef-Tromp, C. M.; Willems, H. A. M.; Westerduin, P.; van Veelen, P.; van
     Boeckel, C. A. A.
CS   N.V. Organon Scientific Development Group, Oss, 5340 BH, Neth.
SO   Bioorganic & Medicinal Chemistry Letters (1997), 7(9), 1175-1180
     CODEN: BMCLE8; ISSN: 0960-894X
PB   Elsevier
DT   Journal
LA   English
IT   191418-11-8P   191418-12-9P   191418-14-1P
     191418-15-2P   191418-16-3P
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (polymer supported solution synthesis of heparan sulfate-like oligomers)
RN   191418-11-8  HCAPLUS
CN   α-D-Glucopyranoside, methyl O-2,3-di-O-methyl-4-O-sulfo-α-L-
     idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-
     (1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-O-
     2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-2,3-di-O-methyl-
     α-L-idopyranuronosyl-(1→4)-O-2,3,6-tri-O-sulfo-α-D-
     glucopyranosyl-(1→4)-O-2,3-di-O-methyl-α-L-idopyranuronosyl-
     (1→4)-O-2,3,6-tri-O-sulfo-α-D-glucopyranosyl-(1→4)-O-
     2,3-di-O-methyl-α-L-idopyranuronosyl-(1→4)-, tris(hydrogen
     sulfate) (9CI)  (CA INDEX NAME)

Absolute stereochemistry.  Rotation (+).
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